

APPENDIX B
MATERIAL SAFETY DATA SHEETS

SAFETY-KLEEN 105 SOLVENT

MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

SECTION 1 -- PRODUCT AND PREPARATION INFORMATION

PRODUCT INFORMATION

IDENTITY (TRADE NAME): SAFETY-KLEEN 105 SOLVENT

SYNONYMS: Mineral Spirits, Stoddard Solvent, Petroleum distillates, Petroleum naphtha

SK PART NUMBER(S): 6617

FAMILY/CHEMICAL NAME: Aliphatic hydrocarbon

PRODUCT USE: Cleaning and degreasing metal parts.
If this product is used in combination with other chemicals, refer to the Material Safety Data Sheets for those chemicals.

24-HOUR EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call a telephone number listed below.

MEDICAL:

1-800-752-7869 (U.S.A.)
1-312-942-5969 (CANADA)

RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS, U.S.A.

TRANSPORTATION:

1-708-888-4660 (U.S.A.)
SAFETY-KLEEN ENVIRONMENT,
HEALTH AND SAFETY DEPARTMENT

1-613-996-6666 (CANADA)
CANUTEC

MANUFACTURER/SUPPLIER:

Safety-Kleen Corp. - 777 Big Timber Road - Elgin, IL, U.S.A. 60123
Telephone number: 1-800-669-5840
Safety-Kleen Canada Inc. - 3090 Blvd. Le Carrefour - Suite 300 - Chomedey Laval
Quebec, Canada H7T 2J7 Telephone number: 1-800-363-2260

PREPARATION INFORMATION

MSDS FORM NO.: 82310

ORIGINAL ISSUE DATE: July 20, 1989

PREPARED BY: Product MSDS Coordinator

TELEPHONE NUMBER: For Product Technical Information Call 1-312-694-2700 (U.S.A.);
1-800-363-2260 (Canada)

REVISION DATE: January 15, 1992

SUPERSEDES: December 14, 1990

APPROVED BY: MSDS Task Force

SECTION 2 -- HAZARDOUS COMPONENTS

NAME	SYNONYM	CAS NO.	WT%	OSHA PEL		ACGIH TLV		OTHER DATA	
				TWA (ppm)	STEL (ppm)	TWA (ppm)	STEL (ppm)	LD ^a	LC
Parts Washer Solvent (consists predominantly of C9-C13 saturated hydrocarbons)	Mineral Spirits	64741-41-9	85.0	100 ^c	N.Av.	100 ^c	N.Av.	>5000 ^c	>5500 ^{b,c} mg/m ³ /4 hours
C8 ⁺ Aromatics	N.Av.	mixture	12.0	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.
*Xylene ^c	Dimethylbenzene	1330-20-7	1.0	100	150	100	150	4300	5000 ^b ppm/4 hours
*Ethylbenzene ^c	Phenylethane	100-41-1	0.5	100	125	100	125	3500	4000 ^d ppm/4 hours

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	Methylbenzene	108-88-3	0.5	100	150	100	150	5000	4000 ^d ppm/4 hours
richloroethane	Methyl chloroform	71-55-6	0-0.5**	350	450	350	450	10300	18000 ^b ppm/4 hours
oroethylene	Tetrachloro- ethylene	127-18-4	0-0.5**	25	N.Av.	50	200	2629	34200 ^b mg/m ³ /8 hours

N = Not Available

Section 9-Other Regulatory Information
though the concentration range does not
under the ranges prescribed by WHMIS,
is the actual range which varies with each
of the product.

^aOral-Rat LD50 (mg/kg)

^bInhalation-Rat LC50

^cFor Stoddard Solvent

^dInhalation-Rat LCLo

^eConstituent of C8+ Aromatics

SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

- S:** For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. If irritation or redness from exposure to vapor or mist develops, move victim away from exposure into fresh air. Consult physician if irritation or pain persists.
- V:** Remove contaminated clothing and shoes. Wash skin twice with soap and water. Consult physician if irritation or pain persists.
- ALATION:**
athing) Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.
- ON:**
lowing) Seek immediate medical attention. Do NOT induce vomiting. If spontaneous vomiting occurs, keep head below hips to avoid aspiration (into lungs).
- SICAL**
TE TO
YSICIAN: Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Contact Rush Poison Control Center (see Section 1) for additional medical information.

SECTION 4 -- HEALTH HAZARD DATA AND TOXICOLOGICAL PROPERTIES

IMARY ROUTES OF EXPOSURE: Eye and skin contact; inhalation, ingestion.

POSURE LIMITS: See Section 2.

GENS AND SYMPTOMS OF EXPOSURE

ACUTE: **Eyes:** Contact with liquid or exposure to vapor may cause mild to moderate irritation with stinging, tearing or redness.

Skin: Contact tends to remove skin oils, possibly leading to irritation and dermatitis. No significant skin absorption hazard.

Inhalation (Breathing): High concentrations of vapor or mist may be irritating to the respiratory tract; may cause nausea; may cause headaches, dizziness, impaired coordination, anesthesia and other central nervous system effects.

Ingestion (Swallowing): Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting, myocardial injury with arrhythmias and symptoms of central nervous system depression as listed for ACUTE Inhalation. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: Prolonged or repeated skin contact may cause drying and cracking or dermatitis.

MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

CAL CONDITIONS AVATED BY SURE:

Individuals with pre-existing lung, cardiac, central nervous system or skin disorders may have increased susceptibility to the effects of exposure.

INOGENICITY:

IARC classifies chemicals by their carcinogenic risk, including agents that are known, probable or possible carcinogens. NTP classifies chemicals as either known carcinogens or for which there is a limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

Perchloroethylene is listed by IARC as a possible carcinogen. Perchloroethylene is classified by NTP as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

Also see Section 9.

IR POTENTIAL TH HAZARDS:

The following information is required by Canadian WHMIS regulations. Irritancy is covered in Signs and Symptoms of Exposure in Section 4. There is no known human sensitization or toxicologically synergistic product associated with this material. Xylene and toluene have demonstrated experimental effects for reproductive toxicity, mutagenicity and teratogenicity. Studies indicate ethylbenzene and 1,1,1-trichloroethane are experimental teratogens.

SECTION 5 -- FIRE AND EXPLOSION HAZARD DATA

RGENCY RESPONSE E NUMBER:

27
Reference Emergency Response Guidebook (DOT 5800.5)

AND OSION HAZARDS:

Vapor explosion hazard may occur indoors, outdoors or in sewers. Decomposition and combustion products may be toxic. Heated containers may rupture, explode or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flash back. Not sensitive to mechanical impact. Material may be sensitive to static discharge, which could result in fire or explosion.

FIGHTING PROCEDURES:

NFPA 704 Rating 0-2-0 (Health-Fire-Reactivity)
Keep storage containers cool with water spray. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.

NGUISHING MEDIA:

Carbon dioxide, foam, dry chemical or water spray.

ITIONS OF FLAMMABILITY:

Heat, sparks or flame.

SH POINT:

105°F (40°C) SETA

OIGNITION TEMPERATURE:

473°F (245°C)

MMABLE LIMITS IN AIR:

LOWER: 0.7 Vol. % UPPER: 6.0 Vol. %

ARDOUS COMBUSTION DUCTS:

Burning may produce carbon monoxide.

SECTION 6 -- REACTIVITY DATA

BILITY:

Stable under normal temperatures and pressures, and not reactive with water.

OMPATIBILITY (MATERIALS AND ITIONS TO AVOID):

Acids, oxidizing agents or chlorine may cause a violent reaction. Avoid heat, sparks or flame.

ARDOUS POLYMERIZATION:

Not known to occur under normal temperatures and pressures.

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STABLE UNDER NORMAL CONDITIONS

None under normal temperatures and pressures.

SECTION 7 -- PREVENTIVE MEASURES

PRECAUTIONS FOR SAFE USE AND HANDLING

**HANDLING
PRECAUTIONS:**

Keep away from heat, sparks or flame. Metal containers, including tank cars and trucks, should be grounded and bonded when material is transferred. Avoid contact with eyes, skin, clothing or shoes. Use in well ventilated area and avoid breathing vapor or mist.

**PERSONAL
HYGIENE:**

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Clean contaminated clothing, shoes and protective equipment before reuse. Discard contaminated clothing, shoes or protective equipment if they cannot be thoroughly cleaned.

**STORAGE AND
HANDLING
PRECAUTIONS:**

Keep container tightly closed when not in use and during transport. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Empty product containers may contain product residue. See Section 9 for Packing Group information.

**SPILL
PROCEDURES:**

Remove all ignition sources. Stop leak if you can do it without risk. Wear protective equipment specified in Section 7, CONTROL MEASURES. Ventilate area and avoid breathing vapor or mist. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. For large spills, isolate area and deny entry; dike far ahead of liquid spill for later disposal. Contain away from surface waters and sewers. If possible, contain as a liquid for possible re-refining or sorb with compatible sorbent material and shovel with a non-sparking tool into closable container for disposal. See Emergency Response Guidebook (DOT P 5800.5) Guide Number 27 for more information.

**ENVIRONMENTAL
DISPOSAL
METHODS:**

Dispose in accordance with federal, state, provincial and local regulations. Contact Safety-Kleen regarding recycling or proper disposal.

CONTROL MEASURES

**EYE
PROTECTION:**

Where there is likelihood of eye contact, wear chemical goggles and faceshield. Do NOT wear contact lenses.

**PROTECTIVE
GLOVES:**

Use Nitrile, Viton[®] or equivalent gloves to prevent contact with skin. Do NOT use Butyl rubber, natural rubber or equivalent gloves.

**RESPIRATORY
PROTECTION:**

Use NIOSH/MSHA-approved respiratory protective equipment when concentration of vapor or mist exceeds applicable exposure limit. A self-contained breathing apparatus (SCBA) and full protective equipment is required for large spills or fire emergencies. Selection and use of respiratory protective equipment should be in accordance in the U.S.A. with OSHA General Industry Standard 29 CFR 1910.134 and in Canada with CSA Standard Z94.4-M1982.

**ENGINEERING
CONTROLS:**

Provide process enclosure or local ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.

**OTHER PROTECTIVE
EQUIPMENT:**

Where spills and splashes are possible, wear appropriate solvent-resistant boots, apron or other protective clothing. Clean water should be available in work areas for flushing the eyes and skin.

SECTION 8 -- PHYSICAL DATA

**PHYSICAL STATE,
APPEARANCE AND ODOR:**

Liquid, clear, green with characteristic hydrocarbon odor

BOILING POINT THRESHOLD:

Not available

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CFIC GRAVITY: 0.77 to 0.80 at 60/60°F (16/16°C) (water = 1)
NSITY: 6.4 to 6.7 lbs/gal
FOR DENSITY: 4.9 (air = 1)
FOR PRESSURE: 2 mm Hg at 68°F (20°C)
ILING POINT: 304 to 435°F (151 to 224°C)
EEZING POINT: Not available
; 7 (water extraction)
ILATILE ORGANIC COMPOUNDS: 100 WT%; 6.4 to 6.7 lbs/gal; 770 to 800 g/l
S EPA DEFINITION)
VAPORATION RATE: 0.1 (butyl acetate = 1)
UBILITY IN WATER: Slight
EFFICIENT OF WATER/OIL
STRIBUTION: Not available
OLECULAR WEIGHT: 142 (approximately)

SECTION 9 – OTHER REGULATORY INFORMATION

TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S. (Mineral Spirits)
DOT CLASS: Combustible Liquid
DOT ID NUMBER: NA1993, PGIII
TDG CLASSIFICATION: Naphtha, solvent, Class 3.3, UN1256, P.G. III

SARA TITLE III:

Product contains toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Toxic constituents are listed with an asterisk in Section 2 of this Material Safety Data Sheet.

Product poses the following physical and health hazards as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard
Fire Hazard

WHMIS CLASSIFICATION:

Class B3, Combustible Liquids;
Class D2A, Infectious and Toxic Materials, Other Toxic Effects, Very Toxic Material;
Class D2B, Infectious and Toxic Materials, Other Toxic Effects, Toxic Material

user assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the material as supplied to the user.

SAFETY-KLEEN 140 SOLVENT
MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

SECTION 1 -- PRODUCT AND PREPARATION INFORMATION

PRODUCT INFORMATION

IDENTITY (TRADE NAME): SAFETY-KLEEN 140 SOLVENT

SYNONYMS: Petroleum distillates, petroleum naphtha

SK PART NUMBER(S): 6616

FAMILY/CHEMICAL NAME: Aliphatic petroleum hydrocarbon

PRODUCT USE: Solvent for cleaning and degreasing metal parts.
If this product is used in combination with other chemicals,
refer to the Material Safety Data Sheets for those chemicals.

24-HOUR EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call a telephone number listed below.

MEDICAL:

1-800-752-7869 (U.S.A.)
1-312-942-5969 (CANADA)
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS, U.S.A.

TRANSPORTATION:

1-708-888-4660 (U.S.A.)
SAFETY-KLEEN ENVIRONMENT,
HEALTH AND SAFETY DEPARTMENT
1-613-996-6666 (CANADA)
CANUTEC

MANUFACTURER/SUPPLIER:

Safety-Kleen Corp. - 777 Big Timber Road - Elgin, IL, U.S.A. 60123
Telephone number: 1-800-669-5840
Safety-Kleen Canada Inc. - 3090 Blvd. Le Carrefour - Suite 300 - Chomedey Laval
Quebec, Canada H7T 2J7 Telephone number: 1-800-363-2260

REPARATION INFORMATION

MSDS FORM NO.: 82418

ORIGINAL ISSUE DATE: July 20, 1989

PREPARED BY: Product MSDS Coordinator

TELEPHONE NUMBER: For Product Technical Information Call 1-312-694-2700 (U.S.A.);
1-800-363-2260 (Canada)

REVISION DATE: December 4, 1991

SUPERSEDES: December 1, 1989

APPROVED BY: MSDS Task Force

SECTION 2 -- HAZARDOUS COMPONENTS

NAME	SYNONYM	CAS NO.	WT%	OSHA PEL		ACGIH TLV		OTHER DATA	
				TWA	STEL	TWA	STEL	LD ^a	LC ^b
Aliphatic petroleum distillates	Petroleum naphtha	64742-88-7	100	100 ^c ppm	N.Av.	100 ^c ppm	N.Av.	> 5000 ^c	> 5500 ^c mg/m ³ / 4 hours

N.Av. = Not Available

^aOral-Rat LD50 (mg/kg)

^bInhalation-Rat LC50

^cFor Stoddard Solvent

SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. If irritation or redness from exposure to vapor or mist develops, move victim away from exposure into fresh air. Consult physician if irritation or pain persists.

SAFETY-KLEEN 140 SOLVENT
MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

First Aid: Remove contaminated clothing and shoes. Wash skin twice with soap and water. Consult physician if irritation or pain persists.

Respiratory Protection: Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

First Aid: Seek immediate medical attention. Do NOT induce vomiting. If spontaneous vomiting occurs, keep head below hips to avoid aspiration (into lungs).

First Aid: Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Contact Rush Poison Control Center (see Section 1) for additional medical information.

SECTION 4 – HEALTH HAZARD DATA AND TOXICOLOGICAL PROPERTIES

Primary Routes of Exposure: Eye and skin contact; inhalation, ingestion.

Exposure Limits: See Section 2.

Signs and Symptoms of Exposure

ACUTE: **Eyes:** Contact with liquid or exposure to vapors may cause mild to moderate irritation with stinging, tearing or redness.

Skin: Contact tends to remove skin oils, possibly leading to irritation and dermatitis. No significant skin absorption hazard.

Inhalation (Breathing): High concentrations of vapor or mist may be irritating to the respiratory tract, may cause nausea; may cause headaches, dizziness, impaired coordination, anesthesia and other central nervous system effects.

Ingestion (Swallowing): Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting, myocardial injury with arrhythmias and symptoms of central nervous system depression as listed for ACUTE Inhalation. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: Prolonged or repeated skin contact may cause drying and cracking or dermatitis.

Medical Conditions

AGGRAVATED BY EXPOSURE: Individuals with pre-existing lung, central nervous system, or skin disorders may have increased susceptibility to the effects of exposure.

MUTAGENICITY: Not applicable.

Also see Section 9.

Other Potential Health Hazards:

The following information is required by Canadian WHMIS regulations. Irritancy is covered in Signs and Symptoms of Exposure in Section 4. There is no known human sensitization, toxicologically synergistic product, reproductive toxicity, mutagenicity, or teratogenicity associated with this material.

SECTION 5 – FIRE AND EXPLOSION HAZARD DATA

Emergency Response Guidebook Number:

27
Reference Emergency Response Guidebook (DOT 5800.5)

SAFETY-KLEEN 140 SOLVENT

MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

7 AND ON HAZARDS:

Vapor explosion hazard may occur indoors, outdoors or in sewers. Decomposition and combustion products may be toxic. Heated containers may rupture, explode or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flash back. Not sensitive to mechanical impact. Material may be sensitive to static discharge, which could result in fire or explosion.

E FIGHTING PROCEDURES:

NFPA 704 Rating 0-2-0 (Health-Fire-Reactivity)
Keep storage containers cool with water spray. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.

TINGUISHING MEDIA:

Carbon dioxide, foam, dry chemical or water spray.

NDITIONS OF FLAMMABILITY:

Heat, sparks or flame.

ASH POINT:

140°F (60°C) (minimum) Tag Closed Cup

TOIGNITION TEMPERATURE:

441°F (227°C)

AMMABLE LIMITS IN AIR:

LOWER: 0.6 Vol. %

UPPER: 7.0 Vol. %

ZARDOUS COMBUSTION ODUCTS:

Burning may produce carbon monoxide.

SECTION 6 -- REACTIVITY DATA

ABILITY:

Stable under normal temperatures and pressures, and not reactive with water.

COMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID):

Avoid acids, alkalis, oxidizing agents, chlorines, selected amines, heat, sparks or flame. May cause a violent reaction.

HAZARDOUS POLYMERIZATION:

Not known to occur under normal temperatures and pressures.

HAZARDOUS DECOMPOSITION PRODUCTS:

None under normal temperatures and pressures.

SECTION 7 -- PREVENTIVE MEASURES

PRECAUTIONS FOR SAFE USE AND HANDLING

HANDLING PRECAUTIONS:

Keep away from heat, sparks or flame. Metal containers, including tank cars and trucks, should be grounded and bonded when material is transferred. Avoid contact with eyes, skin, clothing or shoes. Use in well ventilated area and avoid breathing vapor or mist.

PERSONAL HYGIENE:

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Clean contaminated clothing, shoes and protective equipment before reuse. Discard contaminated clothing, shoes or protective equipment if they cannot be thoroughly cleaned.

SHIPPING AND STORING PRECAUTIONS:

Keep container tightly closed when not in use and during transport. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Empty product containers may contain product residue. See Section 9 for Packing Group information.

MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

SPILL PROCEDURES:	Remove all ignition sources. Stop leak if you can do it without risk. Wear protective equipment specified in Section 7, CONTROL MEASURES. Ventilate area and avoid breathing vapor or mist. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. For large spills, isolate area and deny entry; dike far ahead of liquid spill for later disposal. Contain away from surface waters and sewers. If possible, contain as a liquid for possible re-refining or sorb with compatible sorbent material and shovel with a non-sparking tool into closable container for disposal. See <u>Emergency Response Guidebook</u> (DOT P 5800.5) Guide Number 27 for more information.
WASTE DISPOSAL METHODS:	Dispose in accordance with federal, state, provincial and local regulations. Contact Safety-Kleen regarding recycling or proper disposal.
CONTROL MEASURES	
EYE PROTECTION:	Where there is likelihood of spill or splash, wear chemical goggles and faceshield. Do NOT wear contact lenses.
PROTECTIVE GLOVES:	Use Nitrile, Viton [®] or equivalent gloves to prevent contact with skin. Do NOT use Butyl rubber, natural rubber or equivalent gloves.
RESPIRATORY PROTECTION:	Use NIOSH/MSHA-approved respiratory protective equipment when concentration of vapor or mist exceeds applicable exposure limit. A self-contained breathing apparatus (SCBA) and full protective equipment is required for large spills or fire emergencies. Selection and use of respiratory protective equipment should be in accordance in the U.S.A. with OSHA General Industry Standard 29 CFR 1910.134 and in Canada with CSA Standard Z94.4-M1982.
ENGINEERING CONTROLS:	Provide process enclosure or local ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.
OTHER PROTECTIVE EQUIPMENT:	Where spills and splashes are possible, wear appropriate solvent-resistant boots, apron or other protective clothing. Clean water should be available in work areas for flushing the eyes and skin.

SECTION 8 -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR:	Liquid, clear or green, with characteristic hydrocarbon odor
BOILING POINT THRESHOLD:	Not available
SPECIFIC GRAVITY:	0.78 to 0.81 (60/60°F) (15.6/15.6°C) (water = 1)
DENSITY:	6.5 to 6.8 lbs/gal
VAPOR DENSITY:	4.9 (air = 1) (approximately)
VAPOR PRESSURE:	< 1 mm Hg at 68°F (20°C)
FREEZING POINT:	3.5 to 414°F (180 to 212°C)
FREEZING POINT:	Not available
FLAMMABLE ORGANIC COMPOUNDS: (EPA DEFINITION)	Not applicable
EVAPORATION RATE:	100 WT%; 6.49 to 6.76 lbs/gal; 779 to 811 g/l
SOLUBILITY IN WATER:	0.1 (butyl acetate = 1)
SOLUBILITY IN WATER:	Slight

MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

**PERCENT OF WATER/OIL
DISTRIBUTION:**

Not available

MOLECULAR WEIGHT:

142 (approximately)

SECTION 9 – OTHER REGULATORY INFORMATION

TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: NAPHTHA, SOLVENT

DOT CLASS: Class 3

DOT ID NUMBER: UN1256, Packing Group III

TDG CLASSIFICATION: Naphtha, solvent, Class 3.3, UN1256, P.G. III

SARA TITLE III:

Product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Product poses the following physical and health hazards as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard
Fire Hazard

HAZARD CLASSIFICATION:

Class B3, Combustible Liquids;
Class D2B, Poisonous and Infectious Materials, Other Toxic Effects, Toxic Material

CALIFORNIA:

This product does not contain detectable amounts of any of the materials listed by the State of California as known carcinogens.

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the material as supplied to the user.

SECTION 1 - PRODUCT AND PREPARATION INFORMATION

PRODUCT INFORMATION

IDENTITY (TRADE NAME): SAFETY-KLEEN PREMIUM SOLVENT

SYNONYMS: Stoddard solvent; Naphtha, solvent

PART NUMBER(S): 6605

FAMILY/CHEMICAL NAME: Petroleum hydrocarbon

PRODUCT USE: Cleaning and degreasing metal parts.
If this product is used in combination with other chemicals, refer to the Material Safety Data Sheets for those chemicals.

24 HOUR EMERGENCY TELEPHONE

Use numbers are for emergency use only. If you desire non-emergency information about this product, please call a telephone number listed below.

MEDICAL:

1-800-752-7869 (U.S.A.)
1-312-942-5969 (CANADA)

RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS, U.S.A.

TRANSPORTATION:

1-708-888-4660 (U.S.A.)
SAFETY-KLEEN ENVIRONMENT,
HEALTH AND SAFETY DEPARTMENT

1-613-996-6666 (CANADA)
CANUTEC

MANUFACTURER/SUPPLIER:

Safety-Kleen Corp. - 777 Big Timber Road - Elgin, IL, U.S.A. 60123
Telephone number: 1-800-669-5840
Safety-Kleen Canada Inc. - 3090 Blvd. Le Carrefour - Suite 300 - Chomedey Laval
Quebec, Canada H7T 2J7 Telephone number: 1-800-363-2260

PREPARATION INFORMATION

MSDS FORM NO.: 82529

ORIGINAL ISSUE DATE: January 7, 1993

PREPARED BY: Product MSDS Coordinator

REVISION DATE: February 11, 1993

SUPERSEDES: January 27, 1993

APPROVED BY: MSDS Task Force Chairman

TELEPHONE NUMBER: For Product Technical Information Call 1-312-694-2700 (U.S.A.);
1-800-363-2260 (Canada)

SECTION 2 - HAZARDOUS COMPONENTS

NAME	SYNONYM	CAS NO.	WT%*	OSHA PEL		ACGIH TLV		OTHER DATA	
				TWA	STEL	TWA	STEL	LD ^a	LC ^b
Stoddard solvent	Naphtha, solvent	8052-41-3	0-100	100 ppm	N.Av.	100 ppm	N.Av.	>5000	>5500 mg/m ³ /4 hours
Distillates (petroleum) hydrotreated	Solvent naphtha (petroleum), heavy aliph., hydrotreated	64742-47-8 ^c	0-100	N.Av.	N.Av.	N.Av.	N.Av.	>5000 (Chemlink Co.)	N.Av.

Av. = Not Available

Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

^aOral-Rat LD50 (mg/kg)

^bInhalation-Rat LC50

^cExxon recommended exposure limit: 300 ppm

SAFETY-KLEEN PREMIUM SOLVENT
MATERIAL SAFETY DATA SHEET FOR U.S.A. AND CANADA

SECTION 3 – EMERGENCY AND FIRST AID PROCEDURES

For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. If irritation or redness from exposure to vapor or mist develops, move victim away from exposure into fresh air. Consult physician if irritation or pain persists.

Remove contaminated clothing and shoes. Wash skin twice with soap and water. Consult physician if irritation or pain persists.

CAUTION: Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

WARNING: Seek immediate medical attention. Do NOT induce vomiting. If spontaneous vomiting occurs, keep head below hips to avoid aspiration (into lungs).

ADDITIONAL INFORMATION: Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Contact Rush Poison Control Center (see Section 1) for additional medical information.

SECTION 4 – HEALTH HAZARD DATA AND TOXICOLOGICAL PROPERTIES

PRIMARY ROUTES OF EXPOSURE: Eye and skin contact; inhalation, ingestion.

EXPOSURE LIMITS: See Section 2.

SIGNS AND SYMPTOMS OF EXPOSURE

EYES: Contact with liquid or exposure to vapors may cause mild to moderate irritation with watering, stinging, or redness.

SKIN: Contact with liquid or exposure to vapors tends to remove skin oils, possibly leading to redness, burning, drying and cracking, and damage; may cause dermatitis. No significant skin absorption hazard.

INHALATION (Breathing): High concentrations of vapor or mist may be irritating to the eyes and respiratory tract; may cause nausea, vomiting, coughing with blood, difficulty breathing, lung congestion, and heart attack. High concentrations of vapor or mist may cause headaches, dizziness, incoordination, numbness, unconsciousness, seizures, and other central nervous system effects, including death.

INGESTION (Swallowing): Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting, cardiac injury with arrhythmias (irregular heartbeats), and symptoms of central nervous system depression as listed for *ACUTE Inhalation*. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: Prolonged or repeated skin contact may cause drying and cracking or dermatitis.

**ADDITIONAL CONDITIONS
AGGRAVATED BY
EXPOSURE:**

Individuals with pre-existing lung, cardiac, central nervous system, or skin disorders may have increased susceptibility to the effects of exposure.

MUTAGENICITY:

Not applicable.

Also see Section 9.

**OTHER POTENTIAL
HEALTH HAZARDS:**

The following information is required by Canadian WHMIS regulations. Irritancy is covered in Signs and Symptoms of Exposure in Section 4. There is no known human sensitization, toxicologically synergistic product, reproductive toxicity, mutagenicity, or teratogenicity associated with this product as a whole.

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SECTION 5 – FIRE AND EXPLOSION HAZARD DATA

EMERGENCY RESPONSE GUIDE NUMBER:	27 Reference <i>Emergency Response Guidebook</i> (DOT P 5800.5)
FIRE AND EXPLOSION HAZARDS:	Vapor explosion hazard may occur indoors, outdoors, or in sewers. Decomposition and combustion products may be toxic. Heated containers may rupture, explode, or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flash back. Not sensitive to mechanical impact. Material may be sensitive to static discharge, which could result in fire or explosion.
FIRE FIGHTING PROCEDURES:	NFPA 704 Rating 1-2-0 (Health-Fire-Reactivity) Keep storage containers cool with water spray. Positive-pressure, self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.
EXTINGUISHING MEDIA:	Carbon dioxide, regular foam, dry chemical, or water spray.
CONDITIONS OF FLAMMABILITY:	Heat, sparks, or flame.
FLASH POINT:	148°F (64°C) (minimum) Tag Closed Cup
AUTOIGNITION TEMPERATURE:	491°F (255°C)
FLAMMABLE LIMITS IN AIR:	LOWER: 0.6 Vol. % UPPER: 8.1 Vol. %
HAZARDOUS COMBUSTION PRODUCTS:	Burning may produce carbon monoxide.

SECTION 6 – REACTIVITY DATA

STABILITY:	Stable under normal temperatures and pressures, and not reactive with water.
INCOMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID):	Acids, alkalis, oxidizing agents, chlorines, or selected amines may cause a violent reaction. Avoid heat, sparks, or flame.
HAZARDOUS POLYMERIZATION:	Not known to occur under normal temperatures and pressures.
HAZARDOUS DECOMPOSITION PRODUCTS:	None under normal temperatures and pressures.

SECTION 7 – PREVENTIVE MEASURES

PRECAUTIONS FOR SAFE USE AND HANDLING

HANDLING PRECAUTIONS:	Keep away from heat, sparks, or flame. When material is transferred, metal containers should be grounded and bonded. Avoid contact with eyes, skin, clothing, or shoes. Use in well ventilated area and avoid breathing vapor or mist.
PERSONAL HYGIENE:	Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco products. Clean contaminated clothing, shoes, and protective equipment before reuse. Discard contaminated clothing, shoes, or protective equipment if they cannot be thoroughly cleaned.
SHIPPING AND STORING PRECAUTIONS:	Keep container tightly closed when not in use and during transport. Do not pressurize, drill, cut, heat, weld, braze, grind, or expose containers to flame or other sources of ignition. Empty product containers may contain product residue. See Section 9 for Packing Group information.

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PROCEDURES: Remove all ignition sources. Stop leak if you can do it without risk. Wear protective equipment specified in Section 7, CONTROL MEASURES. Ventilate area and avoid breathing vapor or mist. Water spray may reduce vapor, but it may not prevent ignition in closed spaces. For large spills, isolate area and deny entry; dike far ahead of liquid spill for later disposal. Contain away from surface waters and sewers. If possible, contain as a liquid for possible re-refining or sorb with compatible sorbent material and shovel with a non-sparking tool into closable container for disposal. See *Emergency Response Guidebook* (DOT P 5800.5) Guide Number 27 for more information.

WASTE DISPOSAL METHODS:

Dispose in accordance with federal, state, provincial, and local regulations. Contact Safety-Kleen regarding recycling or proper disposal.

CONTROL MEASURES

EYE PROTECTION:

Where there is likelihood of eye contact, wear chemical goggles and faceshield. Do NOT wear contact lenses.

PROTECTIVE GLOVES:

Use Nitrile, Viton[®], or equivalent gloves to prevent contact with skin. Do NOT use Butyl rubber, natural rubber, or equivalent gloves.

RESPIRATORY PROTECTION:

Use NIOSH/MSHA-approved respiratory protective equipment when concentration of vapor or mist exceeds applicable exposure limit. A self-contained breathing apparatus (SCBA) and full protective equipment are required for large spills or fire emergencies. Selection and use of respiratory protective equipment should be in accordance in the U.S.A. with OSHA General Industry Standard 29 CFR 1910.134 or in Canada with CSA Standard Z94.4-M1982.

ENGINEERING CONTROLS:

Provide process enclosure or local ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.

OTHER PROTECTIVE EQUIPMENT:

Where spills and splashes are possible, wear appropriate solvent-resistant boots, apron, or other protective clothing. Clean water should be available in work areas for flushing the eyes and skin.

SECTION 8 -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR:

Liquid, clear, green or colorless, with characteristic hydrocarbon odor.

ODOR THRESHOLD:

Not available.

SPECIFIC GRAVITY:

0.78 to 0.81 (60°/60°F) (15.6°/15.6°C) (water = 1)

DENSITY:

6.5 to 6.8 lb/US gal (779 to 811 g/l)

VAPOR DENSITY:

4.9 (air = 1) (approximately)

VAPOR PRESSURE:

1 to 2 mm Hg at 68°F (20°C) (maximum)

BOILING POINT:

360° to 478°F (182° to 248°C)

FREEZING POINT:

-33°F (-36°C) (approximately)

pH:

Not applicable.

VOLATILE ORGANIC COMPOUNDS: (U.S. EPA DEFINITION)

100 WT %; 6.49 to 6.76 lb/US gal; 779 to 811 g/l

EVAPORATION RATE:

0.1 (butyl acetate = 1)

SOLUBILITY IN WATER:

Slight.

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**EFFICIENT OF WATER/OIL
DISTRIBUTION:**

Not available.

MOLECULAR WEIGHT:

142 to 169 (approximately)

SECTION 9 - OTHER REGULATORY INFORMATION

TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S. (PETROLEUM NAPHTHA)

DOT CLASS: COMBUSTIBLE LIQUID

DOT ID NUMBER: NA1993, PG III

TDG CLASSIFICATION: Naphtha, petroleum, Class 3.3, UN1255, P.G. III

RA TITLE III:

Product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Product poses the following physical and health hazards as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986:

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard
Fire Hazard

HMIS CLASSIFICATION:

B3, Flammable and Combustible Material, Combustible Liquids;
D2B, Poisonous and Infectious Material, Materials Causing Other Toxic Effects,
Toxic Material

SCA:

All of the components for this product are listed on, or are exempted from the requirement to be listed on, the TSCA Inventory.

CALIFORNIA:

This product contains a detectable amount of benzene CAS No. 71-43-2. This material is listed by the State of California as a known carcinogen.

This product contains a detectable amount of toluene CAS No. 108-88-3. This material is listed by the State of California as known to cause reproductive toxicity.

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the material as supplied to the user.